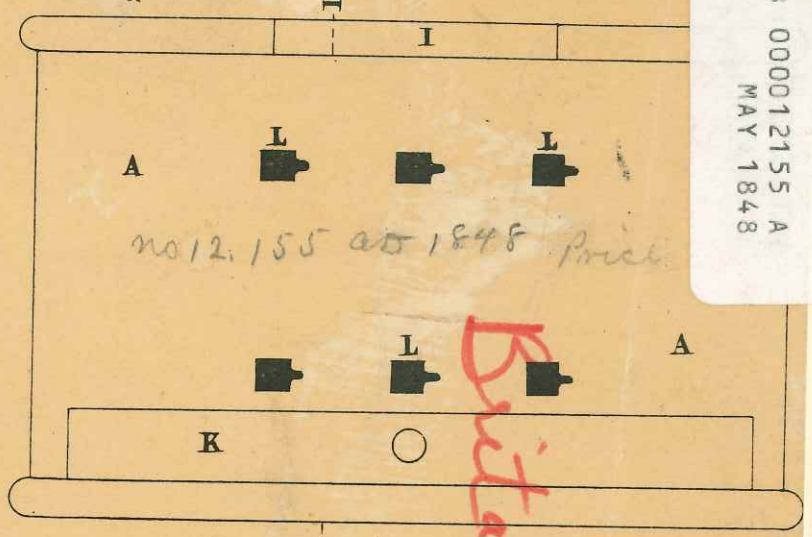


Metal,
Currier Scourers

5/16

FIG. 1*



no 12, 155 as 1848 Price

Britain

May 11, 1848

1848

1848 - 12155

British

FIG. 2*

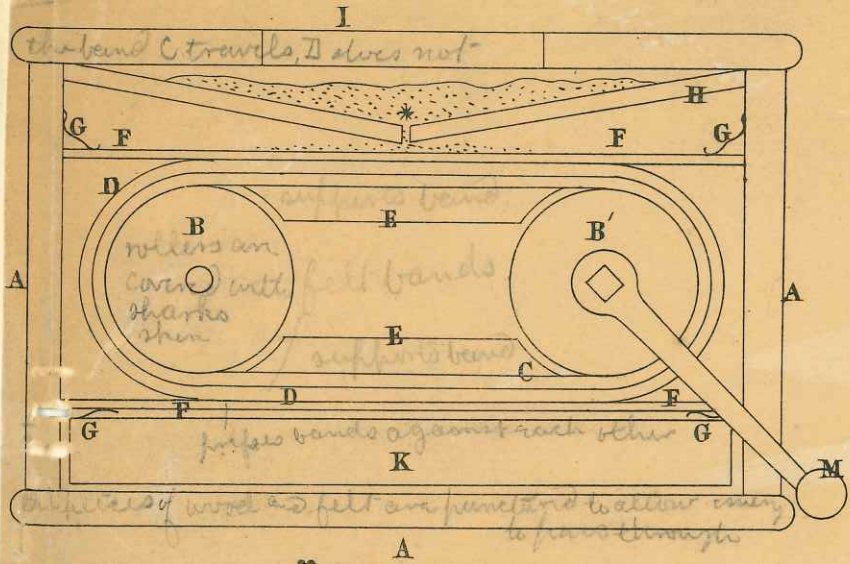
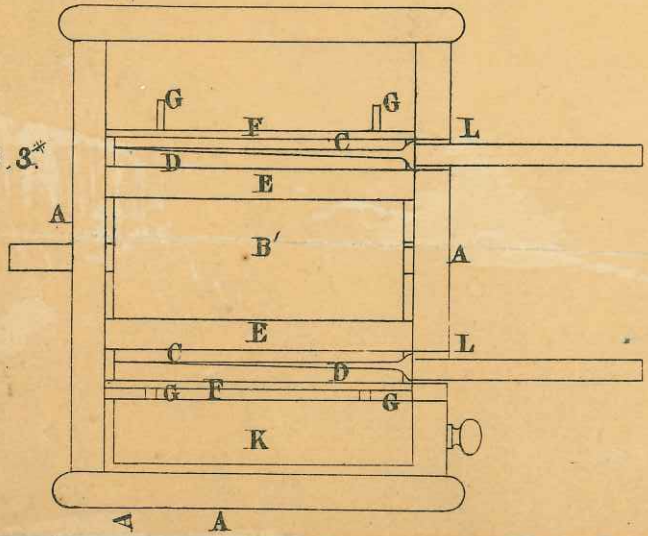


FIG. 3*



1848-12155

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FIG. 1.

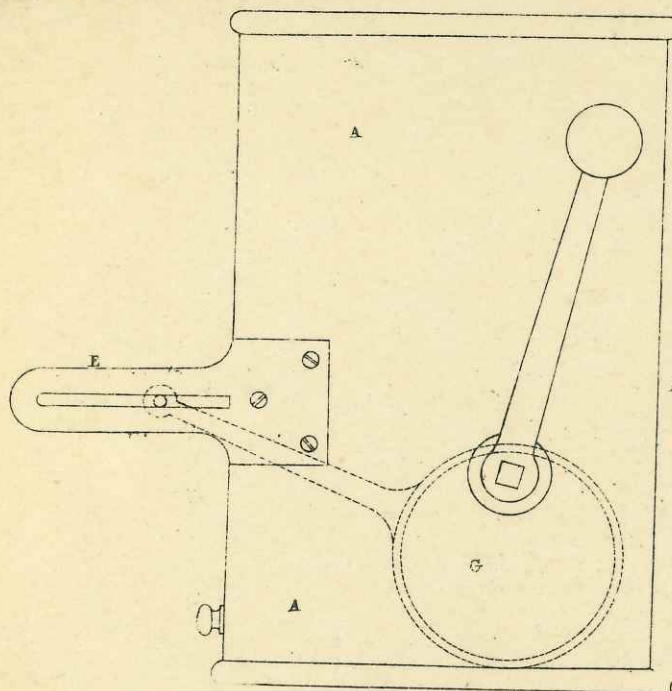


FIG. 2. AD. 1848. MAY 11. N° 12755
PRICE'S SPECIFICATION.

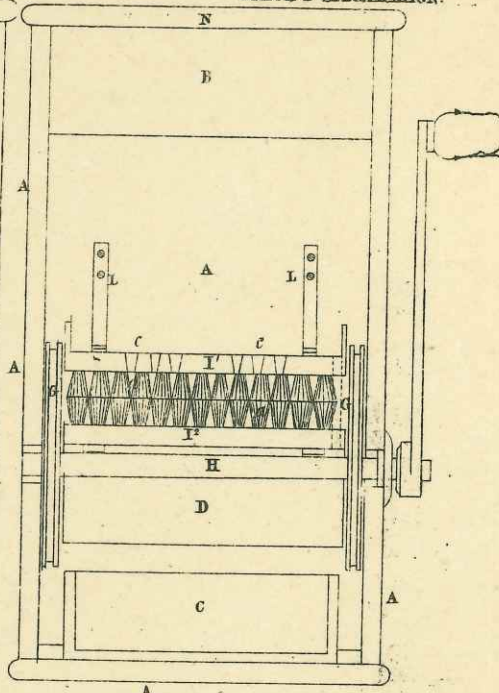


FIG. 4.

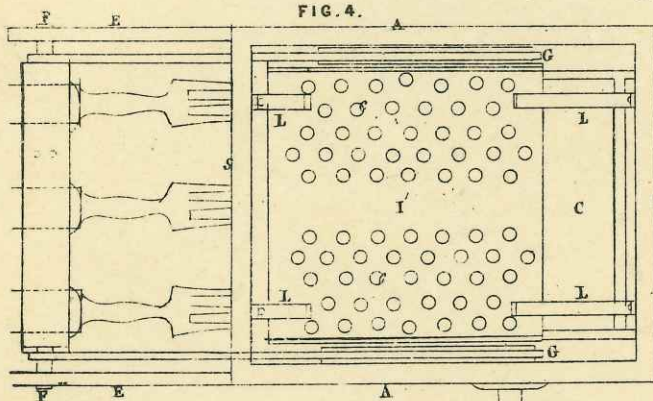


FIG. 3.

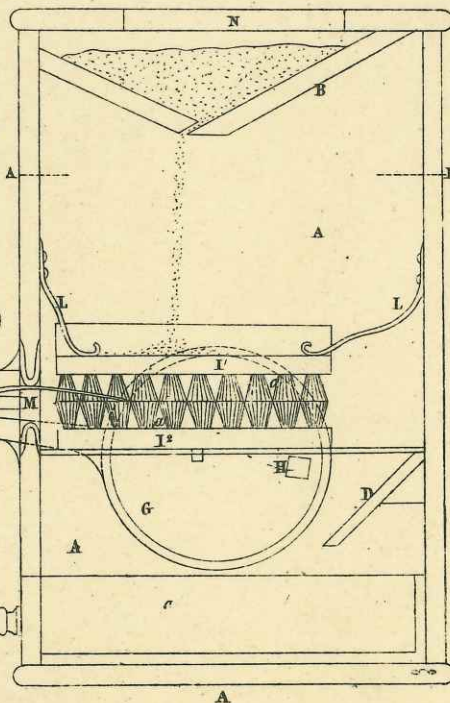
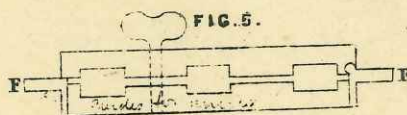


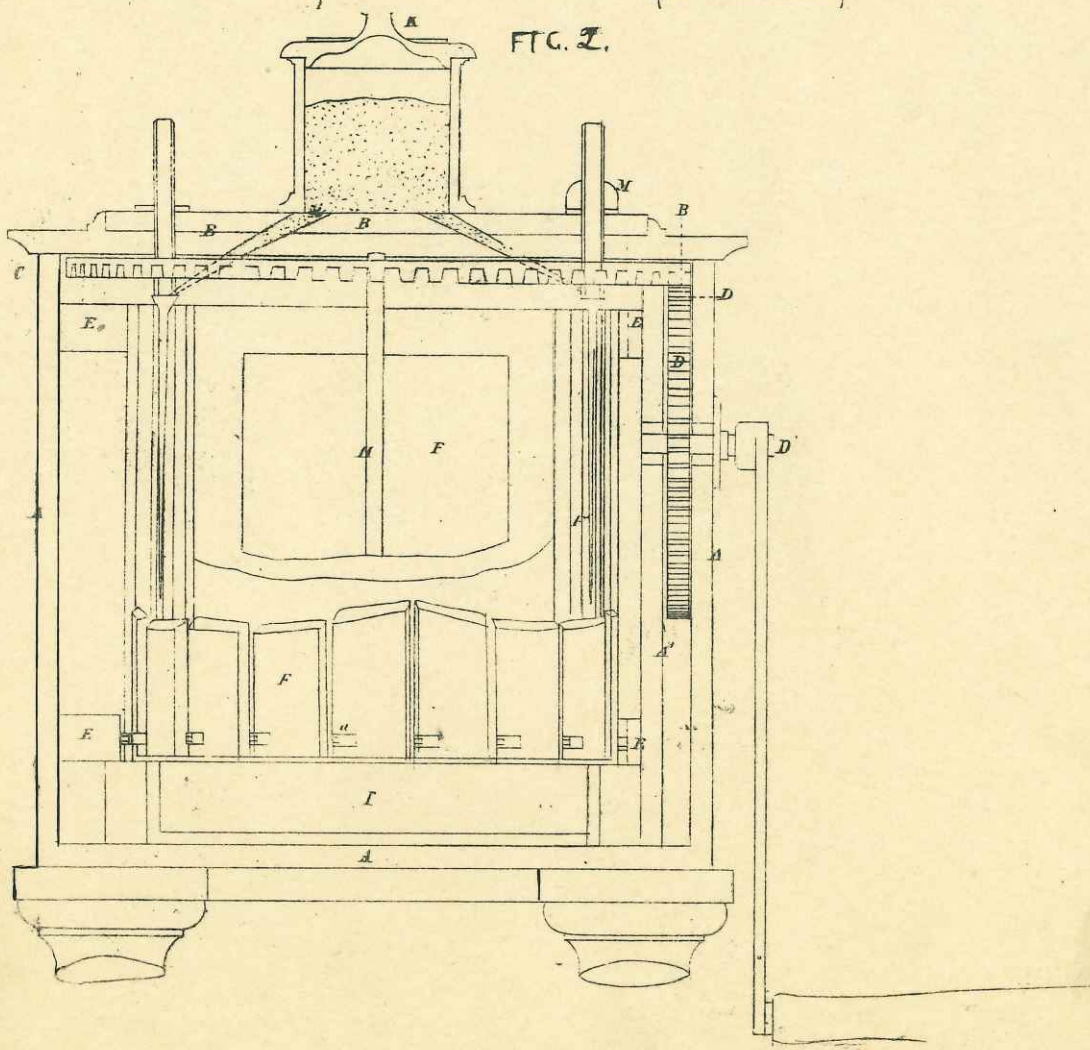
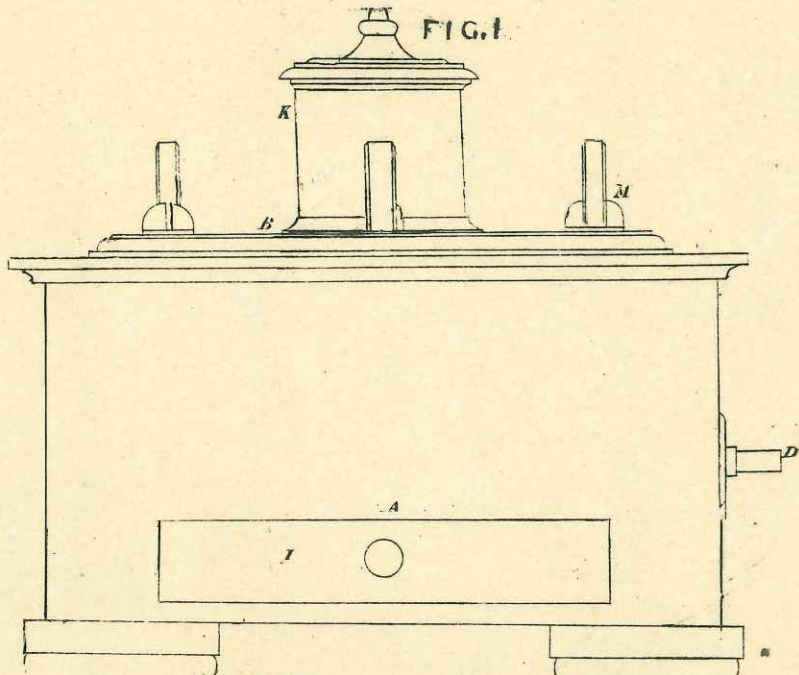
FIG. 5.



1848-12/53

51. GRINDING AND POLISHING,
Metal,
Cutlery Scourers.

A.D. 1848. MAY 11. N° 12,155
PRICES SPECIFICATION.



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FIG. 3.

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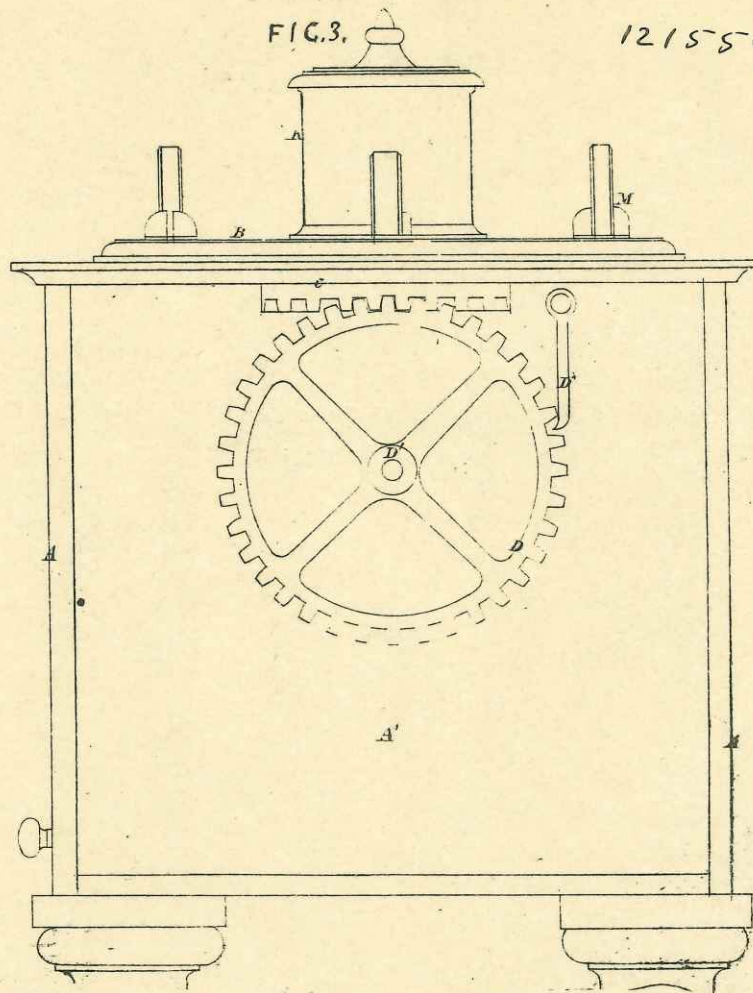
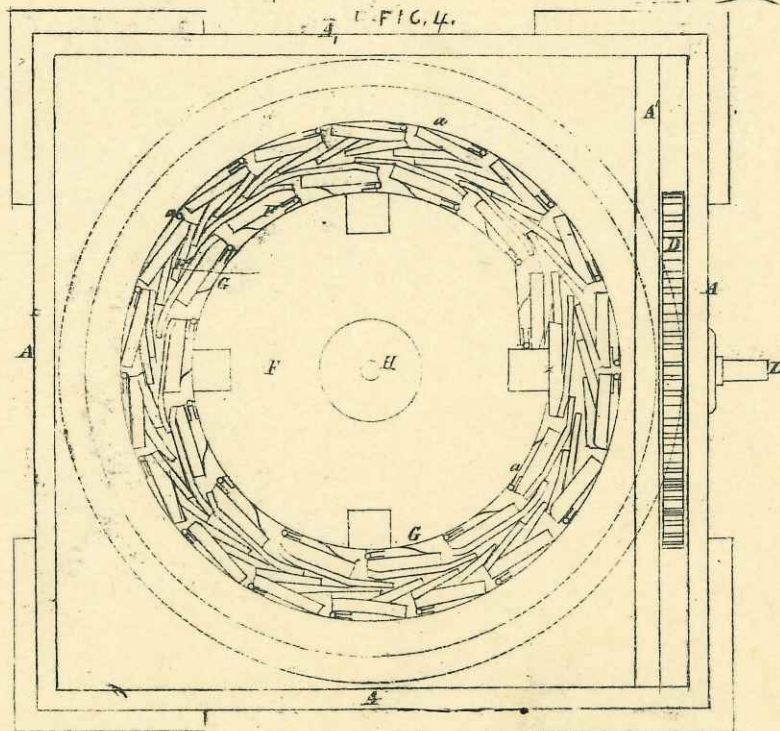


FIG. 4.



1848-12155

12155 of 1848.

FIG. 5.

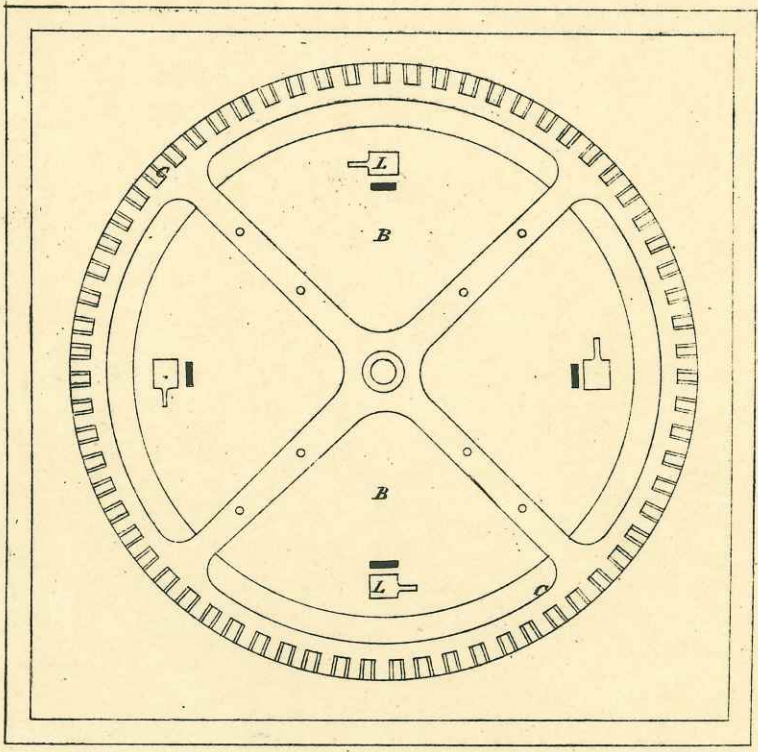
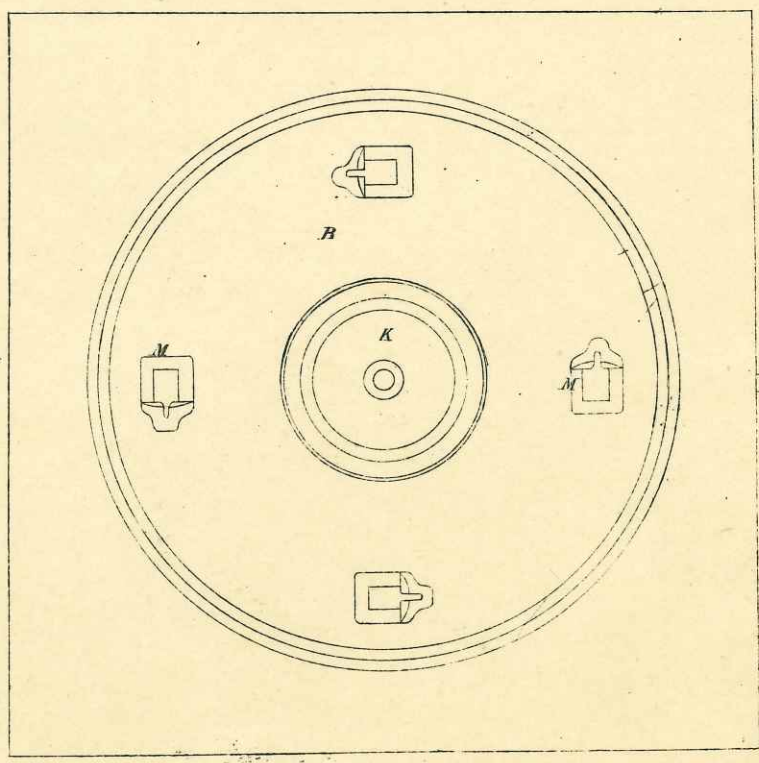


FIG. 6.



G + P

*D. Cutlery scourers and mechanism
for various purposes*



HO

A.D. 1848 N° 12,155. *Dr*

Obtaining and Applying Motive Power.

PRICE'S SPECIFICATION.

Pass along

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, VINCENT PRICE, of Wardour Street, Soho, in the County of Middlesex, Machinist, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her
5 Royal Letters Patent under the Great Seal of Great Britain and Ireland, bearing date at Westminster, the Eleventh day of May (1848), in the eleventh year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Vincent Price, my exors, admors, and assigns, Her special licence, full power, sole privilege and authority, that I, the said Vincent Price,
10 my exors, admors, and assigns, and such others as I, the said Vincent Price, my exors, admors, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within that part of Her said Majesty's United Kingdom of Great Britain and Ireland
15 called England, Her Dominion of Wales, and Town of Berwick-upon-Tweed, my Invention of "CERTAIN NEW OR IMPROVED MECHANICAL ARRANGEMENTS FOR OBTAINING AND APPLYING MOTIVE POWER;" in which Letters Patent is contained a proviso obliging me, the said Vincent Price, to particularly described and ascertain the nature of my said Invention, and in what manner the same is to
20 be performed, by an instrument in writing under my hand and seal, and to cause the same to be enrolled in Her Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereto had, will fully and at large appear.

Price's Improvements in Obtaining and Applying Motive Power.

NOW KNOW YE, that in compliance with the said proviso, I, the said Vincent Price, do hereby declare that the nature of my said Invention, and in what manner the same is to be performed, are particularly and fully described and ascertained in and by the present Specification thereof, reference being had to the Drawings hereunto annexed and forming part thereof, 5 by the letters and figures marked thereon, and herein-after mentioned, that is to say:—

My Invention consists in, and has reference to, certain new or improved mechanical arrangements, hereafter set forth and described, adapted for the purposes of obtaining or communicating motive power or motion for various 10 purposes, and in applying the same to the said purposes.

As my said Invention consists in the peculiar arrangement of certain mechanism with the views and intentions aforesaid, it will be more readily understood by referring to the Drawings hereunto annexed, and forming part hereof, which I will therefore at once proceed to describe in the words and Figures 15 following, that is to say:—

DESCRIPTION OF THE DRAWINGS.

Sheet I. of the said Drawings exhibits and exemplifies certain new or improved mechanical arrangements for obtaining and applying motive power to the propelling of wheel carriages, or vehicles of those classes called or 20 known as pedomotive and manumotive carriages, the novelty whereof principally consists in so arranging and combining the constituent parts of the mechanism for effectuating the said purpose that the motion received from the application of the foot to a treddle, or of the hand to a lever in connection with the mechanism hereafter described, shall impart rotary motion without 25 the intervention of a crank, thus getting rid of the loss or waste of power to which the crank is subject from having to overcome null points, which objection is entirely obviated by the mechanism constructed and actuated according to my said Invention, as herein-after set forth and described, such mechanical arrangements for propelling carriages being well calculated for trucks or 30 carriages used for mining, railway, or other purposes where tram or railways are employed.

In this Sheet of Drawings, Figure 1 is a side elevation of a pedomotive carriage, with my said Invention applied thereto; Figure 2, a longitudinal and vertical section thereof, taken through the line A, B, at Figure 3, which 35 is a top plan view of the framing; Figure 4 is a transverse section taken through the line C, D, at Figures 1 and 2; Figure 5 is a front elevation; Figures 6 and 7, views of detached parts, drawn enlarged, exemplifying more

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clearly the character and construction of the mechanical arrangements aforesaid, Figure 6 being a side view, and Figure 7 an end view thereof. In all these Figures, and throughout the whole of the Sheets of Drawings hereunto annexed, similar letters of reference are placed upon and denote corresponding

5 parts in so far as such parts are exhibited at each of such Figures respectively. A denotes the framing of the carriage of wood or other suitable substance, provided with a body B of similar materials, which is open at the bottom and in front, supporting a seat C; D, two driving wheels, attached by their axle E to the framing of the carriage in the usual manner; and F, two ratchet wheels

10 keyed on the axle of said driving wheels. On each side of both of the said ratchet wheels coupling irons F* are secured by passing keys or wedges through apertures formed in the extremities of said coupling irons immediately under the axle of the said carriage wheels, (as shewn at Figures 6 and 7,) or by other convenient method. The upper part of these coupling irons

15 embrace, and are securely fixed to, a piece of wood or other suitable material G, the upper part whereof is formed curved, as shewn, and provided with flange pieces G¹ for the purpose of retaining the chain hereafter mentioned in its proper position. H, a pin or pivot passed through the said coupling irons, and through the eye of the pall I, placed in the space between the coupling

20 irons. This pall has another eye formed on it near the click or catch, to which a link I* is loosely attached; and there is another link K attached by a pin to the curved flange pieces G¹. Said links are connected together by a strap of vulcanised india rubber or other elastic material L, and are employed for the following purpose:—It will appear evident, that as the ratchet wheels

25 are alternately acted upon by the means before described, and the curved pieces and palls are pressed forward to their greatest extent, upon the pressure being removed from the treddle or treddles, and the elasticity of the spring Q, hereafter mentioned, which has been forcibly distended, will now cause the curved piece G¹, and pall attached thereto, to be drawn back, thereby placing

30 the treddle in a position to be again acted upon; but, suppose the progress of the carriage to be suddenly checked or forced backwards, it will appear evident that the ratchet wheels, being then turned in a contrary direction, will pull back the palls and curved pieces G¹ to which they are attached, and the link K, coming into contact with the stop 1, will force it into the position

35 shewn at Figure 2, and, the elastic strap L being thereby suddenly distended, will have the effect of destroying the shock or jar which would otherwise occur if the parts were rigidly connected together; and, should the pressure be removed from the treddles, it will have the effect of throwing the palls entirely out of gear with the ratchet wheels F, and thereby enable the

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carriage to be pushed backwards. To the pin or pivot M one end of a flat or fuzee chain N is attached, which passes over and rests upon the top of the piece G, and the other end of the said chain or fuzee is attached to one extremity of the rod O, this rod being attached at its other extremity to one side of a treddle or stirrup P, which is attached at its upper extremity, by 5 means of a pivot working in a staple or eye fixed to the framing of the carriage, to the same, as shewn. Q, a spring composed of a hollow cylindrical piece of vulcanized india rubber or similar elastic material, having at each end a plug of wood or other suitable material furnished with hooks, by which it is attached at the one end to an eye formed on a pin fixed in the flange piece G¹, 10 (Figure 7,) and at the other end to an eye or staple fixed to the framing of the carriage. R denotes the two guide wheels of the carriage, which are provided with a curved axle S, attached in the centre to the front of the carriage framing in such a way that it is free to turn thereon, in the same manner as in the front wheels of four-wheeled carriages of the ordinary con- 15 struction. T, a guide handle, the lower extremities whereof are attached to a lever U working on a centre affixed to the carriage framing. To each extremity of this lever one end of a rod W is attached, the opposite end thereof being securely fixed to the curved axle S. X, a break wheel securely fixed upon the axle E, said break wheel being for the purpose of stopping or 20 retarding the progress of the carriage by means of a handle Y, having its fulcrum upon a pin or stud fixed to the carriage framing, as shewn; and there is another stud fixed to said framing, upon which one end of a strap of iron Z is attached, the other end of said strap being attached to the lower end of the lever. In order to give motion to the mechanical arrangements above de- 25 scribed, and thus to propel the carriage or vehicle, the person takes his place upon the seat C, with one foot placed in each of the stirrups or treddles P, which he presses from him alternately, and thus causes the rod O and the attached flat or fuzee chain to be drawn forwards; and this latter, being connected to the piece G, also moves that forward, and causes the palls I to be 30 lifted and act upon the ratchet wheels (F, F,) causing the axle of the driving wheels to revolve, and giving motion to or propelling the carriage. In order that the carriage may run in the desired course, the passenger must keep hold of the guide handle, by moving which to the right or left he will act upon the guide wheels, and guide or steer the carriage, as desired. When it is desired 35 to stop the carriage the person must move the break handle into a catch affixed to the carriage body, by which friction will be exerted in the axle and the carriage stopped, and remains quiescent until the handle is disengaged and the treddles again acted upon, as before described. I would here remark, that

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although I have only shewn in and by the said Drawings the above-described arrangements for obtaining and applying motive power to the propelling of carriages as adapted to a pedomotive carriage, it is obvious that by substituting a lever or levers in the place of the aforesaid treddles, it may be readily converted into a manumotive carriage. It is also to be remarked, that the said mechanical arrangements may, with slight modifications, be applied to other useful purposes, such as the actuating of machinery for cleaning pots or other machinery.

Sheet II. exhibits the mechanism before described, and exhibited at
10 Sheet I. of the Drawings hereunto annexed, as applied to a lathe, Figure 1 being a transverse and vertical section, taken through about the middle of the lathe, shewing the mechanism applied thereto; Figure 2, a front elevation thereof; Figure 3, a top plan view of the treddle and one of the parts in connection therewith. Figures 4 and 5 exhibit detached views of parts, drawn
15 enlarged for the better exemplification of the same. A, A, marks the lathe bed mounted upon standards B, B, which support the square axle C by screws D, D, in the ordinary way; E, E, the pulley wheel, securely keyed thereon. It will be seen, upon referring to Figure 2, that the axle C is formed straight instead of cranked, as usually practised in the construction of
20 such part, and there are ratchet wheels F, G, keyed thereon, in connection with each of which is the following mechanical arrangement:—H, a piece of metal, the lower part of which is formed forked; and such part passes over the axle C, at which part the axle is formed round, said forked part being connected to the axle by a pin I, in a similar manner to that before described
25 with reference to Sheet I. Into the upper part of the piece H, and at one side thereof, is securely fixed, by screwing or otherwise, a jointed piece K, to which is connected by a pin L the upper extremity of a pall M, the lower extremity whereof is formed with a catch N, which takes into the indentations upon the ratchet wheels; and at the opposite side of the upper part of the piece H there
30 is another and somewhat similar jointed piece O, to which is connected by a pin P the upper end of a connecting rod Q, the lower extremity whereof is connected to one end of a cross piece R, securely fixed to the treddle, as shewn at Figure 3, said treddle being supported by centre screws S in the usual way of forming such connection. T, a hooked spring securely fixed to the top of the
35 piece H, for the combined purpose of keeping the pall in contact with the indentations in the ratchet wheel, and of keeping the pall out of gear therewith, when necessary, as hereafter mentioned. It will be observed that the palls of each ratchet wheel are placed in opposite directions one to the other, in order that motion may be imparted to the lathe pulley in a backward or

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forward direction, as the case may be, to effect which one or other of the palls must at all times be out of gear with the ratchet wheel by raising such pall until the hooked part of the spring takes into the notch I¹, formed in the pall M. Thus it will appear evident, that by imparting motion to the treddle in a downward direction, the pall, being connected to the ratchet wheel, will 5 cause rotary motion thereof, and of the pulley wheel and parts in connection therewith, the upward movement of the treddle being effected by the pressure of a strong spring U, the lower part of which is in contact with a plate of metal U¹ fixed to the flooring. By this arrangement it will be seen that the objections attending the crank or other similar contrivance, as hitherto 10 employed in the construction of lathes are entirely avoided, and the treddle is at all times in a favorable position to be acted upon.

At Figures 6 and 7 there is exhibited a new mode of applying the motive power of a screw to the purpose of a lathe tool, designated a "driver," and employed for connecting the part or piece to be operated upon to the chuck of 15 a lathe. *a, a*, mark the jaws of the driver, which have serrated recesses formed upon their inner edges; *b*, a screw or rivet for connecting said jaws together; *c*, a screw passing through a hole formed in one of the jaws, and securely fixed to the other jaw; *d*, a nut passed upon the end of said screw for the purpose of adjusting the driver to the piece to be held. This machinery 20 is actuated and used as above described.

Sheet III. of the said Drawings exhibits certain improved mechanical arrangements for applying motive power to the actuating of certain new or improved machinery or apparatus for effecting the cleansing or cleaning of knives and similar instruments. In this Sheet of Drawings Figure 1 is a 25 front elevation; Figure 2, a partial vertical section, taken through about the middle of the machinery or apparatus; Figure 3, a vertical section, taken through the line A, B, of Figure 2; Figure 4, a horizontal section, taken through the line C, D, at Figure 2; Figure 5, a plan view of the top of the machine, shewn inverted, and exposing to view one of the wheels employed for 30 actuating or imparting movement to the knives; Figure 6, a top plan view of the said machinery or apparatus. A denotes a box or casing of wood or other suitable material, mounted upon standards. The top of this casing having a circular aperture formed through it, which is loosely fitted with an lid or circular piece B, provided with apertures and other appliances, as hereafter 35 described. To the inside of this circular piece a crown wheel C is affixed, the said crown wheel gearing into a pinion D, the axis of which works in suitable bearings affixed to the casing A, and a partition piece A¹, withinside the same respectively. The axis D¹ of the pinion D passes through the casing A to the

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outside thereof, and is provided with a crank handle whereby rotary motion may be given to it; and, by the aid of the mechanical arrangements just described, communicated to the lid or circular piece B and its appliances. D² is a pall or stop which prevents the pinion D from being turned in any but
5 the right direction. E denotes a framing composed of two pieces of wood, or other suitable material, with circular openings formed therein, placed one at the top and the other at bottom, connected together by proper uprights. To the top and bottom pieces of this framing (E) there are laths F attached by suitable hinges as at *a*, properly secured by pins driven through said laths,
10 and rivetted on the other side, or otherwise, and to these laths pieces of felt or other suitable elastic fabric or material are attached in such manner that the pieces of felt, as at (F¹) on one lath, shall overlap that on the next. Inside the framing E there is a hollow cylinder of wood, or other suitable material F*, which also has laths that carry felts attached thereto, in the manner above
15 stated. In this cylinder a notch is cut at *, and the lath placed at that point is tightly fixed to the cylinder F*, for the purpose of allowing the knives, as they are successively introduced, to pass freely between the felts at said point. G denotes springs placed behind each lath (with the exception of the lath at * last mentioned), one end of each of such springs being attached to the framing E,
20 or inner cylinder F*, respectively, and the other end abutting against the back of the lath, keeping it away from such framing or cylinder, and pressed against the opposite lath, except when the pressure of such spring is counterbalanced by the pressure of the knife during the process of cleaning. H is an upright iron spindle passing through centre of the crown wheel and inner cylinder, and
25 bolted to cross bars fixed to the lower part of the framing E (as shewn at Figure 2). I, a drawer fitted to the casing A, for the purpose of receiving the emery and dust from the upper part of the machine. K, a box for containing and supplying emery or other cleaner to the apparatus; suitable channels K¹, communicating with the bottom of this box, being formed through the lid
30 or circular piece B, the revolutions of which facilitate the passage of the emery or other cleaner to the surfaces of the felts aforesaid. L, orifices for the insertion of the knives requiring to be cleaned, provided with suitable metal guards M. In Figures 1, 2, 3, the knives are shewn inserted in the said orifices. To actuate and use this machine it is requisite to fill the box K with
35 emery, and then insert the knives desired to be cleaned, one at a time, in the orifices L, taking care to bring the orifice in which the knife is about to be inserted opposite and near to the handle of the machine, then give motion to the said handle, which, acting upon the arrangements before described, will cause the knives to be carried round between the felts, and effectually cleaned

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or cleansed, the refuse emery and dust which have passed through the machine falling into the drawer, from which they may be removed from time to time upon opening the same.

Sheet IV. and V., Figures 1*, 2*, 3*, exhibit certain mechanical arrangements for applying motive power to the actuating of certain machinery or apparatus for effecting the cleaning or cleansing of knives of construction and arrangement differing from the apparatus herein-before set forth and described. Figure 1* is a front elevation; Figure 2*, a longitudinal and vertical section taken through the line A, B, at Figure 3*, which last-mentioned Figure is a transverse section thereof, taken through C, D, at Figures 1 and 2. A, A, marks a box or casing of wood of rectangular form; within said box or casing there are placed, transversely, rollers of wood or other light and suitable material B, B', the same being mounted upon axes passing through them, and working in suitable bearings in the back and front of the before-mentioned box or casing. C, D, mark endless bands of felt or other suitable elastic material, passed one upon the other, over the rollers B, B'. E, E, mark pieces of wood fixed to the casing, the same being employed for the purpose of presenting a solid surface for the inner band C to travel over; and there are two other pieces of wood F, F, placed above and below the outer band D for the purpose of keeping the two bands in close contact; these pieces may either be rigidly fixed to the box A, in which case the wood should be of a flexible character, or if rigid, there may be tempered steel springs G, G, fixed to the framing, these pressing against the pieces F, F, which in such case would be loose or independent of the box or casing A, would thereby effect the necessary yielding of such pieces. H, a hopper, in which emery or other cleansing material is placed in accordance with the requirements of the article to be cleansed; said hopper is surmounted by a sliding lid I, for the purpose of charging same with cleansing material as shewn at Figure 2*, upon referring to which it will be seen that there is an opening * formed at the bottom of said hopper for the discharge of the material contained therein. The pieces of wood E, E, F, F, as also the endless bands C and D, are punctured with innumerable small holes to allow the emery to pass between the surfaces of the bands C and D, which are in contact, care being taken that the holes in one band are not opposite to or coincident with those in the other. K, a drawer for the reception of the emery or other cleansing material, which falls from time to time through the perforated parts of the machine. L, L, holes or openings formed through the front of the box or casing, into which are to be inserted the knives to be cleaned, as exhibited at Figures 1 and 3. M, a winch handle, placed upon one end of the axis of the roller B', as shewn, upon turning which, motion will be imparted to the

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roller fixed thereon and to the endless band C passing over the same, said rollers being covered with shark's skin or other similar substance, to ensure the band being carried round with the rollers. Thus it will appear evident, upon the knives being placed in the holes L, L, and firmly held between the
 5 bands C and D by shields suitably placed, that the forced contact of the inner surfaces of the elastic bands and emery or other cleansing material rubbing against the sides of the knives, will effectually cleanse the same. This machine is actuated and used as above described.

Sheet IV. and V., Figures 1, 2, 3, 4, 5, exhibit improved mechanical
 10 arrangements for applying motive power to the actuating of certain machinery or apparatus for cleaning or cleansing forks or similar instruments; Figure 1 being a side elevation; Figure 2, a transverse and vertical section; Figure 3, a longitudinal and vertical section; Figure 4, a horizontal section, taken through the line A, B, at Figures 1, 2, 3; Figure 5, a view of a detached part
 15 thereof. A is a box or casing of wood, or other suitable material, and B a hopper fixed inside, at the upper part thereof, for feeding the machinery or apparatus with emery or other polishing material. C, a drawer in the lower part of said box or casing A, for the purpose hereafter described. D, an inclined piece of wood, to throw off the used emery into the said drawer.
 20 E denotes two guide rests, one affixed to each side of the said box or casing A, but standing out in front thereof. In the slots of this guide rest the axes F, F, (of the guide plate or frame composed of metal and wood) traverse. G, two cams or eccentrics (one on each side of the said casing A) having elongated arms, the extremity of each of which is attached by a screw and nut, or other-
 25 wise, to one of the axes F, F, close to the end of the guide plate or frame, and inside the guide rest E. H, the axis of the said eccentric, which works in suitable bearings provided for it at each side of the said casing A, and the said axis protrudes on one side outside the same, and receives a winch handle, by turning which motion is imparted thereto and to said eccentric. I¹, a frame
 30 of wood or other suitable material, provided with a brush or brushes *a*, and orifices C, between them. The brush frame (the upper one) is placed with its brush or brushes facing another brush or brushes in the framing I², in such manner that the two brushes, or sets of brushes, remain in close contact, or nearly so. L, four spings, two affixed to the back and two to the front
 35 of said casing, such springs taking their abutment against the top of the upper brush frame. M, an aperture made in the front of the said casing, to allow the fork or similar instrument to be introduced between the said brushes. N, a lid fitting into an opening provided at top of said casing, through which the charge of emery may be introduced to the inside of said hopper B (Figure 3).

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Figure 5 shews more clearly the construction of the guide plate or frame, which is composed of an upper and a lower part, attached together by a hinge at one end and by a screw nut at the other, and allows the orifices in the said plate or frame to be regulated to the bulk of the fork or instrument. To actuate and use this machinery or apparatus, it is requisite first to charge 5 the hopper B with emery or other polishing material, then to insert the fork or instrument in the guide plate or frame, through the orifices provided for same, and to give motion to the eccentric by turning the winch handle, which will cause the axes of the guide plate or frame to traverse up and down in the slots thereof, alternately inserting and withdrawing the forks in and from 10 between the two sets of brushes, which will be kept tightly pressed upon the said forks by the action of the springs aforesaid, which, together with the action of the emery or polishing material supplied through the orifices in the brush frames before described, will effectually cleanse the said forks or instruments. It is obvious that this machine may not only be applied to the cleaning or 15 cleansing and polishing of forks, but also to the cleansing and polishing of other similar instruments of uneven or even surfaces.

Washing
Sheet VI. of the said Drawings exhibits certain mechanical arrangements for applying motive power to the actuating of certain machinery or apparatus effecting the washing or cleansing of garments and various articles composed 20 of textile fabrics, as hereafter set forth and described. In this Sheet of Drawings Figure 1 is an elevation; Figure 2, a vertical section taken through about the middle of the machine; Figure 3, a transverse section, taken through the line C, D, of Figure 4, which is a top plan view; and Figures 5 and 6, views of detached portions of the said apparatus, shewing more clearly their 25 peculiar construction. A is a stand or framework of wood or other suitable material, and B a box or casing, also of wood or other suitable material, placed thereon. C, a toothed wheel attached to said casing, the axis of which D, has its bearings in brasses inserted in the thickness of the said casing B, and in a suitable orifice formed in the metal strap E outside the 30 same, and secured thereto. F is a crank handle affixed to the said axis D, by turning which rotary motion is imparted to the wheel C, as also to the toothed wheel G gearing into it. The axis G¹ of the last-mentioned wheel passes through a bearing formed in the casing B, to the inside thereof, and imparts the requisite motion to the apparatus. The stand or framework on which the 35 casing B is placed has an opening at top, provided with a lid or cover H, having a handle. Inside the said casing is placed a cylinder I, made of wood or other convenient material, the ends I¹ of which consist of two circular pieces, whilst the other part or circumference thereof is composed of a number of laths *,

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placed at certain distances asunder, with a door I^2 , through which the garments or fabrics to be washed or cleansed are introduced. K, K, K, balls or spheres, made hollow, loaded with lead and covered with felt, by the friction of which upon the garments or other fabrics, combined with the action of the water, soap, or other cleanser, the same become thoroughly washed or cleansed. The cylinder I turns upon two centres, namely, the pin or pivot L affixed to the casing B, and working in a bearing inserted in the thickness of one end (I^1) of the cylinder (as shewn at Figure 3), and the axis G^1 of the wheel G is screwed or bolted to such cylinder, to which it is securely fixed and moves therewith, from which, through the agency of the wheels C and G, upon the handle E being turned, it receives rotary motion. M, a cock or tap for drawing off the water or cleansing liquid when desired. The construction of the cylinder I is more clearly exhibited in Figures 5 and 6; Figure 5 being an end view, partly in elevation and partly in section; and Figure 6, an outside view of the cylinder complete. To actuate and use this machine or apparatus, it is necessary that the casing or trough B be supplied with water or washing liquid, which can be introduced through the opening at top by removing the lid H. This done, the lid being still off, and the cylinder door I^2 brought immediately beneath it and opened, the garments or fabrics to be washed or cleansed must be placed therein, then the washing balls K, K, K, be introduced, the door I^2 shut and fastened by suitable catches, and the lid H replaced, and rotary motion given thereto by the means before described, which will cause the washing balls to move about therein, by the friction of which upon the garments or fabrics to be washed, together with the action of the soap or other cleanser, the same will be thoroughly washed or cleansed in a short space of time.

Sheet VII. of the said Drawings exhibits certain new or improved mechanical arrangements for applying motive power to the actuating of machinery or apparatus for cutting or mincing meat, suet, and other substances, as hereafter set forth and described. In this Sheet of Drawings Figure 1 is an end elevation; Figure 2, a section taken through the line A, B, at Figure 3, which is a top plan view; Figure 4 a side elevation, shewing the axis carrying the cutters thrown back; Figure 5 is a section of that part of the apparatus termed the shield; Figure 6 the interior of this shield, as it would appear when inverted; Figure 7 an end section thereof; Figure 8 an exterior end view thereof; Figure 9 an edge view and side view of the metallic disc forming the cutter; Figure 10, the axis of the machine, shewing also the metal collars, hereafter mentioned, detached therefrom. In the above Figures A denotes a stand of metal or wood, or other convenient material. B, B', two metal stems or standards, one end of each of the parts thereof being

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screwed or otherwise affixed to the said stand (A), the other end being formed with an opening, into which the T shaped end of an axis (C) is inserted, which is maintained there by thumb screws (D) for the purpose of adjusting or removing the axis as may be required. The said axis is furnished with a series of circular knives or cutters E, which are kept at certain distances 5 asunder by placing metal collars α , α , upon the axis C, as shewn at Figures 2, 3, 4, and at Figure 10, where they are shewn detached from said axis, the other extremity of the said axis being placed between the forked parts F of the standard B¹, as shewn at Figure 3, formed on the standard B¹, and the axis is maintained in the desired position by passing a split pin or key (H) 10 through orifices in the said part. The centre of the axis has an orifice I formed therein to admit the upright portion of the bent handle K, through which the same passes to a socket formed in the casting L, in which the lower portion K* of the handle K takes for the purpose of imparting motion to the platter M, of wood, mounted on a pivot formed upon the plate A, upon which 15 it turns freely. P denotes a shield placed across the said platter, for the purpose of protecting the cutters, said shield being provided with notched pieces of wood P¹ fixed to each side thereof, for the purpose of clearing the cutters, the peripheries whereof fit and move in the notches * in the pieces P¹ for that purpose. R a piece of metal placed near to the inner side of the platter for 20 the purpose of removing such portions of the matter under operation that may from time to time adhere thereto. To use and actuate this apparatus it is simply necessary first to remove the shield P and place the suet or other substance to be cut or minced into the bowl or platter, then to replace the shield and turn the handle, by which rotary motion will be imparted to the 25 bowl or platter, and from thence to the cutters, whereby the suet or other substance will be carried under the said cutters and cut or minced as desired.

Sheet VIII. of the said Drawings exhibits certain mechanical arrangements for applying motive power to the actuating of certain machinery or apparatus for cutting or mincing various substances, and particularly adapted for agricultural 30 purposes, the same being a modification of the machinery or apparatus lastly above described. In this Sheet of Drawings Figure 1 is an elevation; Figure 2 a longitudinal and vertical section, taken through the line A, B, at Figure 3, which is a top plan view; Figure 4 a horizontal section taken through the line C, D, at Figure 1; and Figures 5 and 6 views of certain detached 35 parts, shewing more clearly the peculiar construction thereof. A denotes a box or casing of wood or other suitable material provided with a hopper B, for feeding the apparatus, and also with a discharge passage C. The top of this box or casing A is furnished with standards and brasses or bearings D, in

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which a shaft or axis E works, and, extending across the whole width of the top, has a crank handle F fixed at one extremity thereof, and a fly-wheel G at the opposite extremity. Near the centre of the shaft E a vertical bevil wheel H is keyed, which takes into another bevil wheel I, keyed to the top of a vertical
 5 spindle K, which passes through the said box or casing from top to bottom, and turns in a pivot formed at the lower end thereof, working in a suitable bearing L fixed to the bottom of the said box or casing; M, M, two horizontal spindles, mounted in bearings situate at each end, one of such bearings being exhibited at Figure 6. Upon these spindles circular cutters N, N, are
 10 placed and maintained in their proper position by grooved rollers O, O, which serve also to clear the blades, as shewn at Figure 5; P, P, marks the block upon which the matter to be operated upon is placed, and revolves by reason of its being fixed upon lower parts of the upright shaft or spindle K, which receives motion through the agency of the bevelled wheels and handle before
 15 mentioned. To use the machinery or apparatus just described it is requisite to supply, through the hopper B, the turnips or other matters required to be cut or minced, then to turn the handle, by which means rotary motion will be imparted to the shaft or axis E, and the wheel H keyed upon it, which, gearing into the other bevil wheel, will communicate rotary motion to the
 20 vertical spindle, and thus cause the moveable bottom attached to it to revolve therewith, carrying the substances to be cut or minced successively under the blades or cutters, and discharging the same when operated upon by the outlet passage.

Sheet IX. and X., Figures 1, 2, 3, 4, exhibit improved arrangements for
 25 applying motive power to actuating snuffers for snuffing candle-wicks. Figure 1 exhibiting the underneath part of a pair of snuffers; Figure 2 a top plan view, as the same would appear when not in use; Figure 3 a top plan view, as the same would appear when just about to be used; and Figure 4 a horizontal section thereof. A denotes the stem of the snuffers, or that part to
 30 which the handle is affixed, and B a tube working upon said stem, which is formed cylindrical, and has a plate or box C attached thereto of the shape exhibited. To the tube B a semi-circular casing D is securely fixed, and slides over the plate or box C, and is intended for the reception of the snuff from the candle-wick; E a spike, nose, or point, in front of the said part; F a
 35 helical spring coiled around the said stem, the same being secured at one end to the tube B, and at the other end to the plate or box C; G, G, holes formed in the semicircular plate or box C to allow the air contained therein to escape, and thereby prevent the candle from being blown out by the action of snuffing. To actuate and use this instrument it is necessary to apply the fore or other

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finger to the flange * of the tube B, and draw it back into the position shewn at Figure 3, then place the edge of the semicircular box C, and the opposite edge of the snuff-box D, so as to encompass and surround the wick, and when this is done release the finger from the flange, upon which the recoil of the helical spring will suddenly shut the snuff-box and effect the cutting 5 off of the superfluous portion of the wick leaving it deposited therein, and such snuff may be removed therefrom from time to time as occasion may require.

Sheet IX. and X., Figures 1*, 2*, 3*, 4*, 5*, 6*, 7*, 8*, exhibit certain improved arrangements for applying motive power to the actuating of an 10 improved apparatus or instrument for cleaning pens. Figure 1* being an end elevation; Figure 2* an end elevation with a portion removed; Figure 3 a transverse and vertical section taken through about the middle of the instrument; Figures 4*, 5*, 6*, 7*, 8*, views of detached portions, shewing more clearly their construction. A is a stand of metal, the upper surface of which 15 is provided with two grooved or flange pieces; B and C a box or casing also of metal mounted on the said stand. This box or casing is laterally divided into two parts, each part being secured to the stand by being screwed thereto, by unscrewing which access may be had to the interior thereof; D, circular brushes mounted on a roller of hard wood or other suitable substance, which 20 revolves upon axes D¹, having their bearings in orifices in the sides of the said box or casing; E a circular plate secured to the roller aforesaid, dividing the circular brushes. The rim of this plate protrudes from the casing, and has its periphery milled to enable the person using it to turn it with ease; G openings at top of the said casing to allow of the insertion of the pen 25 desired to be cleaned. To actuate and use this apparatus it is necessary to insert the pen in one of the openings G, and to apply the thumb and fore finger to the milled edge of the circular plate E, by which the brushes will receive rotary motion, and have the effect of cleansing the pen and removing extraneous matter therefrom. 30

Sheet XI. of the said Drawings exhibits certain mechanical arrangements for obtaining and applying the motive power to be derived from the passage of water through tubes inserted in the lower part of a ship or other the like vessel, and communicating with the water surrounding the said vessel to the purposes of working the ship's pumps, and other useful purposes on shipboard. 35 In this Sheet of Drawings Figure 1 represents a side elevation; Figure 2 a longitudinal and vertical section; Figure 3 a top plan view; Figure 4 a view of the bows of the vessel; Figure 5 a transverse section, taken through the line A, B, at Figures 1, 2, 3; Figures 6 and 7 views of certain parts, shewing

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more distinctly their peculiar construction. In the lower part of the ship or vessel A along each side thereof tubes or pipes B, B, are placed, which extend from stem to stern, and communicate with the surrounding water at each end by means of the valves C, which are acted upon from the deck by means of
5 a handle attached to the connecting rods E attached to the crank G, which acts at the same time upon the protector valves D. At about the centre of the vessel to each of the pipes B, B, a box or casing I is connected, the bottom of which is open thereto. Within this casing is a water wheel K, similar to an undershot water wheel working upon an axis, having its bearings in recesses
10 formed on each side of the said box or casing, as shewn. The recess nearest to the vessel's side has an orifice in it, provided with a stuffing box, through which a portion of the axis of the said water wheel passes to the side of the vessel, where other bearings are fixed, in which this portion of the said axis rotates. M denotes a pinion keyed on the end of the axis last mentioned,
15 between the outer side of the said casing and the side of the vessel. N is another toothed wheel, situated above the before-mentioned toothed wheel M, and gearing into it. Into the wheel M takes a pinion keyed upon the axis of the wheel O. P a connecting rod attached to one of the spokes of wheel O, and communicating the motion received to the ship's pump or other
20 mechanism. Figures 6 and 7 shew more clearly the peculiar construction of the protector valve D, before mentioned; Figure 6 exhibiting the valve as it appears when closed, and Figure 7 as it appears when open. The use of the before-mentioned arrangement is effectuated when the ship or other vessel is proceeding through the water, or when lying at anchor in a current by
25 the valves being opened in the fore part of the vessel, which allows the water to rush in at that end of the tubes, or upon opening the valve at the stern at that end of said tubes whence it flows on and impinges against the floats of the wheel, causing it to rotate and give action to the mechanical arrangements just described in such manner as to communicate motion to the ship's pumps
30 or other mechanism, as aforesaid, the water then passing out at the other end of the tube, the valve at that end which opens outwards being opened by moving the handle for that purpose, thus the water, by continually flowing in at the stem and out at the stern, or vice versa, actuate the said mechanical arrangements, and effects the working of the ship's pump or other me-
35 chanism.

Sheet XII. exhibits the application of certain mechanical arrangements for applying motive power to the actuating of a fire escape; Figure 1 being a partial elevation of an arrangement and combination of parts constituting a fire escape; Figure 2 a vertical section thereof, taken through about the

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middle; Figure 3 an end elevation of the escape; Figure 4 an elevation of the machine as it would appear when out of use, and turned down to enable it to pass under a gateway, court, or passage, where there would not be sufficient height for it to pass under when erect, or in the position exhibited at Figures 1 and 3. At each of the Figures similar letters of reference are 5 employed to denote corresponding parts. A, A, marks a platform which may be of wood or iron, the same being mounted on wheels B, B, for transporting the machine from place to place. C, C, a hollow square post or pillar of wood, the lower end of which is shod with a casting of iron D, formed with lugs E, E, at opposite sides thereof, as shewn, for the purpose of connecting 10 it to the platform by means of the pins 1, 2, passed through holes formed in the casting F, which is securely fixed to the said platform by bolts or other convenient means; that pin marked 2 is permanently connected to both castings and serves as the fulcrum for placing the post or pillar C and its appurtenances into an erect position, or into the position exhibited at Figures 15 1 & 3; and the pin 1, when passed through the holes in both castings, preserves the said post or pillow and its appurtenances in a vertical position. Within the post or pillar C there is another and nearly similar post G, of smaller dimensions than the former one, which fits sufficiently tight to enable it to be moved up and down freely; the same is effected by the means hereafter 20 described. And within the post or pillow G (which is likewise hollow) there is a solid post or pillar (H) of wood, capable of moving freely within the post G; and the top of the post H is shod, or it may be formed cylindrical at I, for the reception of a stage or platform K of iron, or other known fire-proof material, and has a hole or opening formed therein for connecting it to the 25 foot H, by means of a collar or washer securely fixed to the post after the platform is placed thereon; and from the under side of said platform, and affixed thereto, are rods or bars of iron L, the lower ends whereof are securely fixed to a flat collar or ring M, which fits upon a circular piece fixed to or formed upon the post or pillar H, said arrangements being employed for the 30 combined purpose of steadying the platform by presenting a great bearing surface, and to enable the same to be turned round upon the said post or pillar for the purpose hereafter described. The construction of the other parts of the said platform is as follows:—N, N, marks the hand-rail securely fixed and connected to the bottom K, K, one end whereof is formed enlarged at O*, 35 Figure 5, and to the other end there is attached an antifriction roller P, upon which the bottom of a moveable fire-proof platform Q slides, same being connected to the platform K by guide pieces R, firmly fixed thereto; and there is another antifriction roller S, attached to the under side of the

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moveable platform Q, to enable it to be readily pushed out and withdrawn. It will be seen upon referring to Figure , that the outer end of the platform Q has grappling irons T fixed thereto, to rest the said platform upon the sill of the window or other projecting part of a house; the enlarged end O*,
5 of the platform K is formed open, and has upright pieces U, firmly fixed thereto, for the purpose of raising or lowering a wicker cage or basket, of fire-proof material, by means of a pulley V, fixed to the cross piece at top of said upright pieces, and a cord or chain attached to said cage or basket, which may be actuated by the persons below. W, a trap door attached to the plat-
10 form K, and capable of being moved upwards for the purpose hereafter described. X, a piece of mechanism known as a "crab," and commonly employed for raising heavy weights; this crab is securely fixed upon the platform A, A, and from the winding barrel *a, a*, there extends a fire-proof rope or chain which passes over a pulley *b*, attached to the post or pillar C, C,
15 and from thence it passes downwards, and is firmly fixed to the bottom of the post G in any convenient manner, and to the outside of the post or pillar C there is fixed an eye or staple, to which is connected one end of another fire-proof rope or chain *c, c*, which passes over a pulley *d*, attached to the post or pillar G, and, passing downwards, is connected to the post or pillar H in a
20 similar manner to that lastly above mentioned. Y, a ladder of rope or other material rendered fire-proof, or formed of fire-proof material; the upper extremity of this ladder is firmly fixed to the post H, and the lower extremity thereof is fixed upon a roller Z, attached to the platform A, and is provided with a pall and ratchet wheel for securing the ladder after the escape has
25 been raised to the desired height. The mode of using this escape is as follows:— Having placed the post or pillar C, and its appurtenances, in a vertical position, upon imparting motion to the winch handle of the "crab," the rope or chain will be wound upon the barrel *a*, and thereby effect the raising of the post or pillar G, this as it moves will cause the post or pillar H to be raised
30 by reason of the rope or chain being fixed to the post or pillar C, and the ladder will at the same time be unwound from the barrel, and at all times be in a position to ascend the escape, which having been raised to the required height, is maintained in that position by ratchet wheels and palls attached to the crab and barrel upon which the ladder is wound, and in this manner the
35 escape may be readily raised and lowered as may be required. The fireman or other person having charge of the escape stands upon the part I of the post or pillar H, and turns round the platform into the required position, and, if necessary, slides out the platform until the grappling irons take a bearing upon some projecting part of the house, and having access thereto the inmates

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can pass therefrom along the stage or platform, and getting into the cage or basket can be lowered by the fireman or other persons in the street or road. The escape, when out of use, may be lowered to the position exhibited at Figure 4, and the ladder wound round the barrel as there exhibited; this apparatus is actuated and used as above described.

Having now described my said Invention, and the nature thereof, and in what manner the same is to be performed, according to the tenor of the proviso contained in the Letters Patent granted to me as aforesaid, I declare that I do not claim any of the constituent parts of the mechanical arrangements, mechanism, apparatus, or instruments before described, when taken 10 and considered per se, and apart from the purpose or purposes of my said Invention or improvements, which Invention or improvements I declare to consist in, and I claim, the several mechanical arrangements or combinations of mechanism and apparatus or instruments as herein-before set forth and described and illustrated by the Drawings hereunto annexed, and forming 15 part thereof, together with any such immaterial variation thereof as practice may suggest.

In witness whereof, I, the said Vincent Price, have hereunto set my hand and seal, this Eighth day of November, in the year of our Lord One thousand eight hundred and forty-eight.

VINCENT (L.S.) PRICE.

ANDERSON.

AND BE IT REMEMBERED, that on the Eighth day of November, 1848, the aforesaid Vincent Price came before our said Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the 25 Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

Enrolled the Eleventh day of November, in the year of our Lord One thousand eight hundred and forty-eight.

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